

REMARKS

The Present Invention

The present invention is directed to a composition consisting of a fibrate dissolved in at least one structured lipid.

The Office Action

The Office Action made the following rejections:

1) claims 1, 3-5, 12 and 14-17 were rejected under 35 U.S.C. §102(b) as being anticipated by Lacy (U.S. Patent No. 5,645,856); and

b) claims 1, 3-5, 12 and 14-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lacy in view of Babayan et al. (U.S. Patent No. 4,952,606), Bistran et al. (U.S. Patent No. 4,871,768) and Hyltander (NCP 1995), individually or in combination

Claim Amendments

Applicants have amended claim 1 to provide that the claimed composition consists of a fibrate dissolved in at least one structured lipid.

Discussion of the 35 U.S.C. §102(b) Rejection

Claims 1, 3-5, 12, and 14-17 were rejected under 35 U.S.C. §102(b) as being anticipated by Lacy.

In making this rejection, the Examiner stated, "Lacy discloses capsules containing emulsions of fenofibrate. The emulsions contain a triglyceride, propylene glycol fatty acid esters, polyglycerol esters of fatty acids, and a cosolvent; the composition further contains capric/caprylic triglycerides such as Miglyol and Captex (note columns 4 and 5 and Examples 6 and 7)".

"Applicant's arguments have been fully considered, but are not found to be persuasive. Applicant's arguments once again center around 'structured lipid.' According to applicant, capric and/or caprylic triglycerides taught by Lacy are not structured lipids."

The Examiner further stated, "As already pointed out before, Lacy on col. 9, lines 20-28 teaches several triglycerides under the trade names Miglyol and Captex and these come under the broad and vague definition given by applicant for a 'structured lipid.'"

Lacy does disclose several triglycerides under the trade names Miglyol and Captex; however, Lacy teaches capric and/or caprylic triglycerides. Specific examples (as cited by Lacy) of capric and/or caprylic triglycerides include those Miglyols and Captex products that are, for example, fractionated coconut oils. Examples of fractionated coconut oils include the Miglyol 810 and 812 series and the Captex 300 and 355 series (column 9, lines 20-28). The fractionated coconut oils (e.g., Miglyol 810 and 812 and Captex 300 and 355) are a synthetic class (by fractionation of coconut oils) of triglycerides containing ONLY medium- chain-length fatty acids; these materials are NOT structured lipids. Structured lipids include ONLY those lipids containing saturated medium chain and long chain fatty acids esterified to the same glycerol molecule. Thus, Lacy teaches capric and/or caprylic triglycerides (medium chain triglycerides) and not the general class of lipids

known as structured lipids (medium chain and long chain fatty acids esterified to the same glycerin molecule).

The Examiner also cited the references of Chavkin (U.S. Patent No. 5,753,255) and Kikuchi (U.S. Patent No. 5,506,230) and stated that Chavkin teaches capric triglyceride as a structured lipid. However, Chavkin uses the term "structured" in the sense of ONLY being a "manufactured" lipid material (column 1, line 61) and specifically only those materials derived by the re-esterification of a high purity fatty acid (specifically, capric or decanoic acid, a medium chain fatty acid) and glycerin to yield a medium chain triglyceride (column 1, lines 60-63 and column 2, lines 1-3). This material is NOT a lipid containing both medium and long-chain fatty acids esterified to the same glycerol molecule (i.e., a structured lipid as defined in the present invention or as defined in the published literature and attached to the previous Amendment as Exhibits B and C). The present invention teaches "structured" lipids; capric triglyceride (as taught by Chavkin) is a "manufactured" tricaprins designated as a medium chain triglyceride.

Chavkin describes the metabolic pathway of capric triglyceride (tricaprins, a medium chain triglyceride), for example, as not being metabolized by the human digestive tract in the ordinary manner of fats. They are absorbed directly into the portal circulation and are metabolized like glucose for energy rather than deposited as body fat (column 2, lines 5-9). Structured lipids, as a class, are NOT metabolized in this manner. The metabolic pathway of typical structured lipids is described in the following published article by Jandacek et al. (Jandacek et al. The rapid hydrolysis

and efficient absorption of triglycerides with octanoic acid in the 1 and 3 positions and long-chain fatty acid in the 2 position. Am J Clin Nutr 1987;45:940-5), attached hereto as Exhibit A.

The Examiner further stated that Kikuchi teaches medium chain triglycerides as structured lipids (column 2, lines 24-34). However, Kikuchi uses the terminology "structured" as being those lipids that are "synthesized" (similar to Chavkin), NOT as a lipid containing both medium- and long-chain fatty acids esterified to the same glycerol molecule (i.e., a structured lipid as defined in the present invention or as defined in the published literature and attached to the previous Amendment as Exhibits B and C). Kikuchi describes only medium chain triglycerides (MCTs).

The Examiner also stated, "Applicant's introduction of the term 'consisting essentially of' is noted. This amendment will not overcome the rejection because 'the phrase does not necessary limit the claims so as to exclude other things when the specification clearly indicates that other constituents may be present' (Ex parte Bonkidis, POBA 1966, 154 USPQ 444). Where the reference composition contains modifying components in addition to those of the claimed composition, the exclusion of such components by the phrase 'consisting essentially of' does not impart patentability to the composition unless their omission results in a substantial change in the properties of the composition, because the phrase permits the inclusion of ingredients which do not materially affect the basic and novel characteristics of the claimed composition."

Applicants have amended claim 1 to change the term "consisting essentially of" to "consisting of". Thus, surfactants are excluded. Even if one assumed that the general class of structured lipids included medium chain triglycerides (which it does not), the compositions of

amended claim 1 (i.e., those excluding surfactants and consisting of a fibrates dissolved in at least one structured lipid) result in a substantial change in the properties of said composition when compared to the reference (i.e., those compositions disclosed by Lacy). First, the compositions of Lacy demonstrate the important property of in vivo dispersion of the oil upon administration (column 3, lines 41-42 and claim 1.b.ii). Dispersion is NOT a property (nor a requirement) of the presently claimed invention (when surfactants are excluded). Second, the present invention as described in amended claim 1 (again, excluding surfactants) provides a composition that does not exhibit or demonstrate the property of "not substantially inhibiting the lipolysis of the oil." The invention does not contain a hydrophilic surfactant component that substantially inhibits the in vivo lipolysis of the oil, and a lipophilic surfactant component capable of at least substantially reducing said inhibitory effect of said hydrophilic surfactant component. Fibrates are simply dissolved in a structured lipid - there is not the requirement for a surfactant component that does not inhibit lipolysis. The inclusion of a surfactant that does not inhibit lipolysis is an important property of Lacy's compositions (column 3, lines 38-45 and claim 1); this is NOT a property of the presently claimed invention.

Example 2 and Figure 2 of the present invention clearly demonstrate that surfactants are not an essential component. Therefore, the present invention is an improvement over Lacy and is not anticipated by Lacy. Withdrawal of this rejection is respectfully requested.

Discussion of the 35 U.S.C. §103(a) Rejection

Claims 1, 3-5, 12, and 14-17 were rejected under 35 U.S.C. Sec. 103(a) as being unpatentable over Lacy in view of Babayan, Bistran, and Hyltander, individually or in combination.

In making this rejection, the Examiner stated "Lacy as pointed out above, discloses capsules containing emulsions of fenofibrate. The emulsions contain a triglyceride, propylene glycol fatty acid esters, polyglycerol esters of fatty acids, and a cosolvent; the composition further contains capric/caprylic triglycerides such as Miglyol and Captex (note columns 4 and 5 and Examples 6 and 7). It is unclear, however, whether Lacy teaches instant 'structured lipids.'"

The Examiner further stated, "Assuming that Lacy's triglycerides are not structured lipids, it is deemed obvious to one of ordinary skill in the art to use the structured triglycerides instead of the triglycerides taught by Lacy, especially when the drug used is for regulating cholesterol or lipid metabolism, since structured triglycerides have advantages relating to cholesterol and atherosclerosis and other clinical advantages as taught by Babayan, Bistran, and Hyltander, respectively."

The amendment to claim 1 overcomes the Lacy rejection for the important reasons discussed above, as the compositions of the present invention demonstrate completely different properties than those disclosed by Lacy's (e.g., lack of dispersion and the lack of a surfactant component that does not substantially inhibit the lipolysis of the oil). Babayan, Bistran, and Hyltander do not disclose fibrates and the solubility of fibrates in structured lipids. Babayan, Bistran, and Hyltander do not remedy any of the defects of Lacy. Neither Lacy, Babayan, Bistran, nor Hyltander, alone or in combination, disclose or suggest to one of ordinary skill in the art the presently claimed

compositions consisting of a fibrate dissolved in at least one structured lipid. Thus, this rejection should be withdrawn.

SUMMARY

Favorable consideration and allowance of claims 1, 3- 5, 12 and 14-17 as presently amended is respectfully requested. If any fees are incurred as a result of the filing of this paper, authorization is given to charge Deposit Account Number 23-0785.

Respectfully submitted,

WOOD, PHILLIPS, KATZ, CLARK & MORTIMER

Date: July 22, 2002

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Marked-Up Version of Claims

1. (thrice amended) A composition consisting [essentially] of a fibrate dissolved in at least one structured lipid.